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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER				
ALTUN, NURI B				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/591,638

Applicant(s)

YASUHARA ET AL.

Examiner

Nuri Boran ALTUN

Art Unit

4165

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-20 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 05 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-85/86)
Paper No(s)/Mail Date 09/05/2006 10/05/2006
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

This communication is a first Office Action Non-Final rejection on the merits.

Claims 1-20, as amended on 09/05/06, are currently pending and have been considered below.

Claim Objections

1. Claims **6 and 11** are objected to because of the following informalities:
“insert hole with an play,” “fit with an play” appear to be misspelled and should be replaced with “with a play”.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims **5, 7 and 12** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 5, it is not clear which of the previously recited connecting members is identified by reciting “the connecting member.”

As per claims 7 and 12, it is not clear how the transmission member is being press-fit into the insert hole if the members are fit into the hole with a play.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims **1-12 and 16-18** are rejected under 35 U.S.C. 102(b) as being anticipated by **Triller et al. (JP 2002242994)**.

As per claim 1, Triller et al. teach a power transmission chain, comprising:

a plurality of link units (2, 4, 6) aligned in a traveling direction of chain (see Fig. 1 and 11);

a plurality of connecting members (10) that link the plurality of link units (2) to one another in a manner so as to be bendable (see paragraph 0001);

and guiding members (34) provided correspondingly to the respective connecting members (10) (see Fig. 5),

wherein: each of the link units (2) includes a plurality of links aligned in a width direction of chain orthogonal to the traveling direction of chain (see Fig. 11);

each of the links includes first and second through-holes (8) aligned in the traveling direction of chain for a corresponding connecting member to be inserted therethrough (see paragraph 0009, Fig. 1 and 9);

each of the connecting members (10) includes first (12) and second power transmission members (14); and

either one of the first (12) and second power transmission members (14) is guided by the guiding member (34) (see paragraph 0015), and consequently the one

power transmission member moves to the other transmission member while coming into contact with the other power transmission member in a contact state including at least one of rolling contact and sliding contact (see paragraph 0001; since the pins are located on rolling surface, it is construed that first pin moves to the second one in a rolling contact state).

As per claim 2, Triller et al. teach each of the links further includes a communication groove (middle portion of 8) through which the first and second through-holes (8) communicate with each other (see Fig. 9 and 10).

As per claim 3, Triller et al. teach a corresponding first power transmission member (left side of 14) is fit into the first through-hole (8) in each of the links (2) in a manner so as to enable relative movements (see paragraph 0011 and Fig. 1; since there is a gap in between the through-holes, it is construed that pin 14 enables relative movements), and a corresponding second power transmission member (left side of 12) is fit therein in a manner so as to inhibit relative movements (see paragraph 0011 and Fig. 1; pin 12 is restrained by left side of link 2);

and a corresponding second power transmission member (right side of 12) is fit into the second through-hole (8) in each of the links in a manner so as to enable relative movements (see paragraph 0011 and Fig. 1; since there is a gap in between the through-holes, it is construed that pin 12 enables relative movements), and a corresponding first power transmission member (right side of 14) is fit therein in a manner so as to inhibit relative movements (see paragraph 0011 and Fig. 1, pin 14 is restrained by right side of link 2).

As per claim 4, Triller et al. teach at least one guiding member (34) is provided correspondingly to each of the connecting members (10) as the guiding member (see Fig. 5).

As per claim 5, Triller et al. teach at least one guiding member (34) is disposed at an arbitrary position on the connecting member (10) in the width direction of chain (see Fig. 5 and 8, see paragraph 0015).

As per claim 6, Triller et al. teach the guiding member (34) includes an insert hole (36);

and the one power transmission member (12) is fit into the insert hole with a play, and the other power transmission member (14) is fixed therein (see paragraph 0015; since the corners of the hole is cut off and pins are inserted therein, it is construed that pin is fixed into the hole with a play).

As per claim 7, Triller et al. teach the other power transmission member (14) is fixed by being press-fit into the insert hole (see paragraph 0011; it is inherent that second pin is press-fit since the pins are tightly inserted) .

As per claim 8, Triller et al. teach an inner peripheral surface of the insert hole includes a guiding surface (40) to guide the one power transmission member (see paragraph 0015).

As per claim 9, Triller et al. teach both a corresponding first power transmission member (12) and a corresponding second power transmission member (14) are respectively fit into the first through-hole (8) in each of the links in a manner so as to

enable relative movements (see paragraph 0011; since there is a gap in between the through-holes, it is construed that pin enables relative movements);

and both a corresponding first power transmission member (12) and a corresponding second power transmission member (14) are respectively fit into the second through-hole (8) in each of the links in a manner so as to enable relative movements (see Fig. 1).

As per claim 10, Triller et al. teach first and second guiding members (34) are provided, respectively, at each end portion of a pair of end portions of a corresponding connecting member (10) as the guiding member (see Fig. 5); and the first and second guiding members cooperate to prevent falling off of the corresponding connecting member and the corresponding link (see paragraph 0015; since the guiding member is provided at the end of the link and guiding member, it will inherently prevent them from falling off).

As per claim 11, Triller et al. teach the first guiding member (34) includes a first insert hole (36), to which a corresponding first power transmission member (12) is fixed and into which a corresponding second power transmission member (14) is fit with a play (see paragraph 0015; since the corners of the hole is cut off and pins are inserted therein, it is construed that pin is fit into the hole with a play);

the first insert hole includes a first guiding surface (40) that guides the corresponding second power transmission member (14) (see paragraph 0015) for causing the corresponding second power transmission member to come into contact with the corresponding first power transmission member in a contact state including at

least one of rolling contact and sliding contact (see paragraph 0001; since the pins are located on rolling surface, it is construed that first pin moves to the second one in a rolling contact state);

the second guiding member (34) includes a second insert hole (36), to which a corresponding second power transmission member (14) is fixed and into which a corresponding first power transmission member (12) is fit with a play (see paragraph 0015; since the corners of the hole is cut off and pins are inserted therein, it is construed that pin is fit into the hole with a play);

and the second insert hole includes a second guiding surface (40) that guides the corresponding first power transmission member (12) (see paragraph 0015) for causing the corresponding first power transmission member to come into contact with the corresponding second power transmission member in a contact state including at least one of rolling contact and sliding contact (see paragraph 0001; since the pins are located on rolling surface, it is construed that first pin moves to the second one in a rolling contact state).

As per claim 12, Triller et al. teach the corresponding first power transmission member (12) is fixed by being press-fit into the first insert hole (36) of the first guiding member (see paragraph 0011; it is inherent that second pin is press-fit since the pins are tightly inserted).

As per claims 16-18, Triller et al. teach first and second pulleys having, respectively, a pair of sheave surfaces that oppose to each other in a shape of a circular conical surface, wherein power is transmitted between the first and second pulleys via

the power transmission (see paragraph 0002; since paragraph 0002 teaches conical disk stepless transmission, it inherently has at least 2 pulleys and sheaves opposing each other which transmits power).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims **13 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Triller et al. (JP 2002242994)**, in view of **Van Rooij et al. (5,728,021)**.

As per claim 13, Triller et al. teach all the structural elements of the claimed invention, as mentioned in claim 1, but doesn't explicitly disclose a locus of movement of a contact point between the first and second power transmission members of each of the connecting members shape an involute curve.

Van Rooij et al. teach a transmission chain for a cone pulley transmission having locus of movement of a contact point (93) between the first (89) and second power transmission members (101) of each of the connecting members shape an involute curve (col.5, lines 37-42 and see Fig. 9).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the chain of Triller et al. to include the contact point taught by Van Rooij et al. in order to provide better connection between the pins.

As per claim 19, Triller et al. teach first and second pulleys having, respectively, a pair of sheave surfaces that oppose to each other in a shape of a circular conical surface, wherein power is transmitted between the first and second pulleys via the power transmission (see paragraph 0002; since paragraph 0002 teaches conical disk stepless transmission, it inherently has at least 2 pulleys and sheaves opposing each other which transmits power).

8. Claim **14** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Triller et al. (JP 2002242994)**, in view of **Van Rooij et al. (5,728,021)**, as applied to claim 13, and further in view of **Kanehira et al. (6,432,011)**.

Triller et al. and Van Rooij et al. combination teaches all the structural elements of the claimed invention, as mentioned in claim 13 above, but doesn't explicitly disclose the locus of the movement of the contact point of the first connecting members being different than the locus of the movement of the contact point the second connecting members; and at least one of the first connecting members and the second connecting members are arrayed randomly at least in a partial region of the power transmission chain in the traveling direction of chain.

Kanehira et al. teach a silent chain having the plurality of connecting members including the first (R1) and second connecting members (R2);

the locus of the movement of the contact point of the first (L1) and second power transmission members (S1) of the first connecting members (R1) and the locus of the movement of the contact point of the first (L2) and second power transmission members

(S2) of the second connecting members (R2) are different from each other (col.4, lines 48-63);

and at least one of the first connecting members (R1) and the second connecting members (R2) are arrayed randomly at least in a partial region of the power transmission chain in the traveling direction of chain (col.4 line 64 – col.5 line 3).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Triller et al. and Van Rooij et al. to include the contact point and configuration taught by Kanehire et al. in order to provide better connection between the pins.

9. Claims **15 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Triller et al. (JP 2002242994)**, in view of **Baumann et al. (2002/0068654)**.

As per claim 15, Triller et al. teach all the structural elements of the claimed invention, as mentioned in claim 1, but doesn't explicitly disclose the plurality of link units include link units of a first specification and link units of a second specification; a disposition interval between the first power transmission member inserted through the first through-hole and the first power transmission member inserted through the a second through-hole in each link of the link units of the first specification is relatively long; a disposition interval between the first power transmission member inserted through the first through-hole and the first power transmission member inserted through the second through-hole in each link of the link units of the second specification is relatively short; and at least one of the link units of the first specification and the link

units of the second specification are arrayed randomly at least in a partial region of the power transmission chain in the traveling direction of chain.

Baumann et al. teach a plate-link chain having the plurality of link units including link units of a first specification and link units of a second specification (see Fig. 1);

a disposition interval (7) between the first power transmission member (3) inserted through the first through-hole and the first power transmission member inserted through the a second through-hole (4) in each link of the link units of the first specification is relatively long; a disposition interval (7) between the first power transmission member inserted through the first through-hole (4) and the first power transmission member (3) inserted through the second through-hole in each link of the link units of the second specification is relatively short (see paragraph 0054; since the disposition interval varies irregularly within the limits depending on the extent of pins and spacing of the holes, it is construed that intervals could be relatively long or short);

and at least one of the link units of the first specification and the link units of the second specification are arrayed randomly at least in a partial region of the power transmission chain in the traveling direction of chain (see paragraph 0054 and Fig. 1).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the chain of Triller et al. to include the disposition interval taught by Baumann et al. in order to reduce noise generation.

As per claim 20, Triller et al. teach first and second pulleys having, respectively, a pair of sheave surfaces that oppose to each other in a shape of a circular conical surface, wherein power is transmitted between the first and second pulleys via the

power transmission (see paragraph 0002; since paragraph 0002 teaches conical disk stepless transmission, it inherently has at least 2 pulleys and sheaves opposing each other which transmits power).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The reference Masuda et al. (5,052,985) teach chain-type power transmission belt with similar features.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nuri Boran ALTUN whose telephone number is (571) 270-5807. The examiner can normally be reached on Mon-Fri 7:30 - 5:00 with first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynda Jasmin can be reached on 571 272 6782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRADLEY KING/
Primary Examiner, Art Unit 3683

NBA